DECLARATION OF MORGAN C. ESPERANCE, MD MPH

I, Morgan C. Esperance, MD MPH, declare as follows:

1. I am a medical doctor, board certified in internal medicine. A copy of my CV is attached hereto as Exhibit 1.

2. I submit this declaration at the request of defense counsel in connection with Michael Gordon's request for compassionate release.

3. I currently work as a Hospitalist at Brigham and Women's Hospital (BWH) in Boston, Massachusetts. As a hospitalist, my role is to care for patients who are acutely ill and require care in the hospital.

4. Since March 2020 I have cared for patients at BWH both at risk for and infected with SARS-CoV-2, the virus that causes the disease COVID-19. I am well-versed in the current and evolving understanding of this special pathogen including the medical literature and best clinical practices.

5. I have not personally met or examined Mr. Michael Gordon. However, I have reviewed Mr. Michael Gordon Federal Bureau of Prisons medical records, including 388 pages from 2018-2020.

6. Mr. Michael Gordon is 51-years-old and suffers from a number of serious medical conditions. These include liver transplant due to acute cholestatic hepatitis, deep venous thrombosis and pulmonary emboli, and essential hypertension.

7. Mr. Gordon has a history of acute cholestatic hepatitis that resulted in acute liver failure for which he underwent a liver transplant in 2010 at Massachusetts General Hospital. His transplant was initially complicated by acute cellular rejection for which he recovered. Since then, he has been followed by hepatologist at Beth Israel Deaconess Medical Center. Mr. Gordon

is required to take two medications that cause suppression of his immune system: prednisone and tacrolimus. These are medications that he must continue indefinitely to prevent liver rejection. Mr. Gordon's liver function tests have been persistently abnormal suggesting possible chronic rejection and are being monitored closely by his hepatologist. His labs show chronic low white blood cell counts (leukopenia) and low platelets (thrombocytopenia) which are reflective of his degree of chronic immunosuppression.

8. Mr. Gordon also has a history of blood clots. He developed a blood clot in his right leg in 2015 and in his lungs in 2016 and in 2017. While it is not clear from the medical records if Mr. Gordon has been evaluated for a coagulopathy, the occurrent of multiple blood clots is typically suggestive of a clotting disorder.

9. Mr. Gordon's also has essential hypertension. His medical records show that his blood pressures are persistently above target for his age.

10. Currently, there is a pandemic of the novel coronavirus, SARS-CoV-2, which causes the disease COVID-19. SARS-CoV-2 is thought to spread largely person-to-person via infected respiratory droplets. When a person coughs, sneezes, or talks they expel respiratory droplets. Droplets may travel as much as 6 ft before falling to the ground. A person can be infected with SARS-CoV-2 if there is direct contact between infected droplets and that person's mucous membranes or indirect contact if that person touches a surface contaminated with SARS-CoV-2 and then touches their own mucous membranes.

11. The SARS-CoV-2 virus can be transmitted from infected individuals who are asymptomatic prior to the illness manifesting itself, throughout the course of the illness, and after recovery.[1] The risk of transmission from an individual with SARS-CoV-2 infection varies by the

[1] Rothe C et al. Transmission of 2019-nCoV Infection from an Asymptomatic Contact in Germany. N Engl J Med. 2020;382(10):970. Epub 2020 Jan 30; Yu et al. A familial cluster of infection associated with the 2019 novel

type of exposure (direct vs indirect), duration of exposure, protective measures, and individual factors (e.g., the amount of virus in respiratory secretions).

12. Most infections have been described among household contacts, in health care settings when personal protective equipment was not used (including hospitals[2] and long-term care facilities),[3] and in closed settings (e.g., cruise ships).[4] There are also clusters of cases associated with social or work gatherings that highlight the risk of transmission through close, non-household contacts.[5] Extensive contamination of the patient environment including objects such as handles, light switches, bed and handrails, interior doors and windows, toilet bowl, sink basin occurs even in patients with mild disease.[6]

13. The incubation period for COVID-19 is thought to be within 14 days following exposure, with most cases occurring approximately four to five days after exposure.[7]

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coronavirus indicating potential person-to-person transmission during the incubation period. J Infect Dis. 2020; Bai Y et al. Presumed Asymptomatic Carrier Transmission of COVID-19. JAMA. 2020; Hu Z et al. Clinical characteristics of 24 asymptomatic infections with COVID-19 screened among close contacts in Nanjing, China. Sci China Life Sci. 2020; and Qian G. A COVID-19 Transmission within a family cluster by presymptomatic infectors in China. Clin Infect Dis. 2020.

[2] Wang et al. Clinical Characteristics of 138 Hospitalized Patients With 2019 Novel Coronavirus-Infected Pneumonia in Wuhan, China. JAMA. 2020.

[3] McMichael TM et al. COVID-19 in a Long-Term Care Facility - King County, Washington, February 27-March 9, 2020. MMWR Morb Mortal Wkly Rep. 2020;69(12):339. Epub 2020 Mar 27.

[4] Kakimoto K. Initial Investigation of Transmission of COVID-19 Among Crew Members During Quarantine of a Cruise Ship - Yokohama, Japan, February 2020. MMWR Morb Mortal Wkly Rep. 2020;69(11):312. Epub 2020 Mar 20.

[5] Ghinai I et al. Community Transmission of SARS-CoV-2 at Two Family Gatherings—Chicago, Illinois, February–March 2020. MMWR Morb Mortal Wkly Rep. 2020 and Pung R et al. Investigation of three clusters of COVID-19 in Singapore: implications for surveillance and response measures. Lancet. 2020;395(10229):1039. Epub 2020 Mar 17.

[6] Ong SWX et al.Air, Surface Environmental, and Personal Protective Equipment Contamination by Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) From a Symptomatic Patient. JAMA. 2020.

[7] Li Q et al. Early Transmission Dynamics in Wuhan, China, of Novel Coronavirus-Infected Pneumonia. N Engl J Med. 2020;382(13):1199. Epub 2020 Jan 29; Guan WJ. Clinical Characteristics of Coronavirus Disease 2019 in China. N Engl J Med. 2020; and Chan JF. A familial cluster of pneumonia associated with the 2019 novel coronavirus indicating person-to-person transmission: a study of a family cluster. Lancet. 2020;395(10223):514. Epub 2020 Jan 24.

14. SARS-CoV2 infects the upper and sometimes lower respiratory tract and causes a spectrum of illness that includes mild illness, which is generally a pneumonia that does not require hospitalization; severe illness, which is generally a pneumonia that does require hospitalization and is characterized by shortness of breath, low oxygen levels, and more than 50% lung involvement on chest imaging; and critical illness, which involves respiratory failure, shock, and multiorgan dysfunction.[8] Serious complications associated with COVID-19 include injury to the heart (cardiomyopathy),[9] blood clots (deep venous thromboses and pulmonary emboli),[10] and strokes.[11]

15. Due to Mr. Gordon's medical conditions, in particular history of a liver transplant, history of blood clots in his leg and lungs, and essential hypertension he is more susceptible to contracting COVID-19 and also at an increased developing severe illness and death from COVID-19 should he develop the disease.

16. Liver transplant recipients, because of long-term oral immunosuppressant effects, are likely more susceptible to SARS-CoV-2 infection compared to the general population. They are also likely to have a worse prognosis should they contract the disease. Data on the effects of

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[8] Wu Z et al. Characteristics of and Important Lessons From the Coronavirus Disease 2019 (COVID-19) Outbreak in China: Summary of a Report of 72 314 Cases From the Chinese Center for Disease Control and Prevention. JAMA. 2020.

[9] Arentz M et al. Characteristics and Outcomes of 21 Critically Ill Patients With COVID-19 in Washington State. JAMA. 2020.

[10] Xie Y et al. COVID-19 Complicated by Acute Pulmonary Embolism. Images in Cardiothoracic Imaging. 2020; Danzi GB et al. Acute pulmonary embolism and COVID-19 pneumonia: a random association? Eur Heart J. 2020; Zhang Y et al. Coagulopathy and Antiphospholipid Antibodies in Patients with Covid-19. N Engl J Med. 2020; and Klok FA et al. Incidence of thrombotic complications in critically ill ICU patients with COVID-19. Thromb Res. 2020.

[11] Mao L et al. Neurologic Manifestations of Hospitalized Patients With Coronavirus Disease 2019 in Wuhan, China. JAMA Neurol. 2020 and Klok FA et al. Incidence of thrombotic complications in critically ill ICU patients with COVID-19. Thromb Res. 2020.

COVID-19 in liver transplant recipients is somewhat limited as this is a novel virus,[12] however, COVID-19-related mortality in liver transplant patients has been reported in both China and Italy.[13]

17. Liver transplant recipients often do not mount a fever due to immunosuppression. As fever is usually the first symptom of SARS-CoV-2 infection, the virus may go undetected in liver transplant recipients during its initial phase, resulting in more severe illness and death from the disease.

18. SARS-CoV-2 causes liver damage in as many as 50% of patients both with and without underlying liver disease.[14] Liver function abnormalities in COVID patients admitted to the hospital were associated with a worse prognosis.[15] Liver transplant recipients have been found to have more extensive lung involvement compared to the general population including larger lung lesions, multiple lesions, and involvement of the lower lobes of the lung.[16] Individuals with suppressed immune systems may also take longer to clear the virus and may remain infectious to other people longer than other patients with COVID-19.[17]

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[12] American Association for the Study of Liver Diseases. Clinical insights for hepatology and liver transplant providers during the COVID-19 pandemic. https://www.aasld.org/sites/default/files/2020-04/AASLD-COVID19-ClinicalInsights-4.07.2020-Final.pdf (Accessed on April 26, 2020).

[13] Bhoori S et al. COVID-19 in long-term liver transplant patients: preliminary experience from an Italian transplant centre in Lombardy. Lancet Gastroenterol Hepatol. 2020 and Huang JF et al. Fatal outcome in a liver transplant recipient with COVID-19. Am J Transplant. 2020 Apr 10.

[14] Fan et al. Clinical Features of COVID-19-Related Liver Damage. MedRxiv. 27 February 2020; Xu et al. Liver injury during highly pathogenic human coronavirus infections. Liver International. 2020 March 10; and Zhang C et al. Liver injury in COVID-19: management and challenges. Lancet Gastroenterol Hepatol. 2020;5(5):428. Epub 2020 Mar 4.

[15] Huang JF et al. Fatal outcome in a liver transplant recipient with COVID-19. Am J Transplant. 2020 Apr 10 and Zhou et al. Clinical course and risk factors for mortality of adult inpatients with COVID-19 in Wuhan, China: a retrospective cohort study. Lancet. 2020;395(10229):1054.

[16] Shi HS et al. Clinical and imaging features of pneumonia infected by 2019-nCoV. J Clin Radiol. 2020.

[17] CDC. Groups at Higher Risk for Severe Illness. https://www.cdc.gov/coronavirus/2019-ncov/need-extra-precautions/groups-at-higher-risk.html (Accessed: April 24, 2020).

19. There is strong evidence to support that patients with hypertension are more likely to develop COVID-19 and also at increased risk of severe illness and death from COVID-19 should they contract the disease.[18] A meta-analysis of six studies found that patients with hypertension are 2.29 times more likely to develop severe illness compared to patients without hypertension.[19] Other studies have found an increased risk of death among patients with hypertension of 1.8-3.1.[20] Due to his past medical history of hypertension, Mr. Gordon is not only at increased risk of developing COVID-19, but also at greater risk of severe disease and of dying from his illness.

20. Mr. Gordon also has a history of multiple blood clots including in his leg and in his lungs. Development of blood clots are a known life-threatening complication of COVID-19.[21]

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[18] CDC COVID-19 Response Team. Preliminary Estimates of the Prevalence of Selected Underlying Health Conditions Among Patients with Coronavirus Disease 2019—United States, February 12–March 28, 2020. MMWR Morb Mortal Wkly Rep. 2020; Chen N et al. Epidemiological and clinical characteristics of 99 cases of 2019 novel coronavirus pneumonia in Wuhan, China: a descriptive study. Lancet. 2020 Feb 15;395(10223):507-513; Fang et al. Are patients with hypertension and diabetes mellitus at increased risk for COVID-19 infection? Lancet Respir Med. 2020 Apr;8(4):e21; Guan WJ. Clinical Characteristics of Coronavirus Disease 2019 in China. N Engl J Med. 2020; Liang et al. Cancer patients in SARS-CoV-2 infection: a nationwide analysis in China. Lancet Oncol. 2020;21(3):335; Wang B et al. Does comorbidity increase the risk of patients with COVID-19: evidence from meta-analysis. Aging. 8 April 2020; Wang D et al. Clinical Characteristics of 138 Hospitalized Patients With 2019 Novel Coronavirus-Infected Pneumonia in Wuhan, China. JAMA. 2020 Feb 7; Wu et al. Characteristics of and Important Lessons From the Coronavirus Disease 2019 (COVID-19) Outbreak in China: Summary of a Report of 72 314 Cases From the Chinese Center for Disease Control and Prevention. JAMA. 2020; Clinical course and outcomes of critically ill patients with SARS-CoV-2 pneumonia in Wuhan, China: a single-centered, retrospective, observational study; Yang et al. Clinical course and outcomes of critically ill patients with SARS-CoV-2 pneumonia in Wuhan, China: a single-centered, retrospective, observational study. Lancet Respir Med. 2020 Feb 24; and Zhou et al. Clinical course and risk factors for mortality of adult inpatients with COVID-19 in Wuhan, China: a retrospective cohort study. Lancet. 2020;395(10229):1054;

[19] Wang B et al. Does comorbidity increase the risk of patients with COVID-19: evidence from meta-analysis. Aging. 8 April 2020.

[20] Wu et al. Characteristics of and Important Lessons From the Coronavirus Disease 2019 (COVID-19) Outbreak in China: Summary of a Report of 72 314 Cases From the Chinese Center for Disease Control and Prevention. JAMA. 2020 and and Zhou et al. Clinical course and risk factors for mortality of adult inpatients with COVID-19 in Wuhan, China: a retrospective cohort study. Lancet. 2020;395(10229):1054.

[21] Xie Y et al. COVID-19 Complicated by Acute Pulmonary Embolism. Images in Cardiothoracic Imaging. 2020; Danzi GB et al. Acute pulmonary embolism and COVID-19 pneumonia: a random association? Eur Heart J. 2020; Zhang Y et al. Coagulopathy and Antiphospholipid Antibodies in Patients with Covid-19. N Engl J Med. 2020; and

Mr. Gordon's propensity to develop blood clots likely compounds his risk of this serious complication.

21. Individuals who reside in long-term care facilities are at high risk of developing COVID-19. In a long-term care facility in Washington State, 101 out of 118 residents developed COVID-19.[22] Extrapolating from studies that looked at long-term care facilities, hospitals without adequate personal protective equipment, and the close confines of cruise ships it is likely that Mr. Gordon's risk of infection with SARS-CoV-2 while incarcerated is very high.[23]

22. In conclusion, Mr. Gordon suffers from underlying medical conditions including hypertension, status as a liver transplant recipient, and history of blood clots that that increase his risk of contracting COVID-19, as well as developing severe disease, complications, and death. As an incarcerated individual he is already at increased risk of contracting SARS-CoV-2 due to his close proximity to other people.

I declare under the penalty of perjury that the foregoing is true and correct. Executed this 27th day of April, 2020, in Boston, Massachusetts.

Morgan C. Esperance, MD MPH

Klok FA et al. Incidence of thrombotic complications in critically ill ICU patients with COVID-19. Thromb Res. 2020.

[22] McMichael TM. Epidemiology of Covid-19 in a Long-Term Care Facility in King County, Washington. N Engl J Med. 2020.

[23] Wang et al. Clinical Characteristics of 138 Hospitalized Patients With 2019 Novel Coronavirus-Infected Pneumonia in Wuhan, China. JAMA. 2020; McMichael TM et al. COVID-19 in a Long-Term Care Facility - King County, Washington, February 27-March 9, 2020. MMWR Morb Mortal Wkly Rep. 2020;69(12):339. Epub 2020 Mar 27; and Kakimoto K. Initial Investigation of Transmission of COVID-19 Among Crew Members During Quarantine of a Cruise Ship - Yokohama, Japan, February 2020. MMWR Morb Mortal Wkly Rep. 2020;69(11):312. Epub 2020 Mar 20.

Date Prepared: **March 31, 2020**

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Work FAX: (530) 512-1109

Place of Birth: Weymouth, MA

Education:

2005	ScB	Neuroscience	Brown University
2011	MD	Medicine	Harvard Medical School
2016	MPH	Clinical Effectiveness	Harvard T.H. Chan School of Public Health

Postdoctoral Training:

06/11-6/16	Resident	Internal Medicine and Pediatrics Global Health Equity Track	Brigham and Women's Hospital/Boston Children's Hospital

Faculty Academic Appointments:

07/16-Present	Instructor	Medicine	Harvard Medical School
06/11-06/16	Clinical Fellow	Medicine	Harvard Medical School

Appointments at Hospitals/Affiliated Institutions:

07/16-Present	Hospitalist	Medicine (Hospital Medicine)	Brigham and Women's Hospital
07/16-Present	Hospitalist	Medicine (Hospital Medicine)	Dana-Farber Cancer Institute

Other Professional Positions:

11/12-Present	Senior Author and Editorial Review Board Member	Firecracker	0-4 hours per week

Major Administrative Leadership Positions:

2019-Present	Associate Director, Leadership for Health Equity Pathway	BWH
2019-Present	Director of Population Health, Hospital Medicine Unit	BWH

Committee Service:

Local

0	Recovery Clinic Operational and Scope Working Group	BWH
	2017-2018	Member
0	BCORE Education Task Force	BWH
	2017-2019	Member
0	Patient At Risk Committee	BWH
	2018-Present	Member
0	General Medicine Service Substance Use Disorder Working Group	BWH Chairperson

Professional Societies:

2017-	Society of Hospital Medicine	Member
	2018-2019	Member, Public Policy Committee

Honors and Prizes:

2011	Multiculturalism and Diversity Award	Harvard Medical School	Community Service
2005	Phi Beta Kappa	Brown University	Academic Achievement

Report of Funded and Unfunded Projects

Past Funded Projects:

2016 Martin P. Solomon Primary Care Award
Department of Medicine, Brigham and Women's Hospital
Primary Investigator
Understand factors contributing to retention of physicians and nurses in rural Haiti including the role of the social service residency.

Unfunded Past Projects:

2017-2018 Hospitalist and Physician Assistant Training for Medication-Assisted Treatment of Opiate Use Disorders
Includes an assessment of hospitalist and physician assistant knowledge and practices regarding MAT before and after an educational intervention as well as measuring number of hospitalists that obtain a waiver to prescribe buprenorphine.

Report of Local Teaching and Training

Teaching of Students in Courses:

2013	Patient-Doctor I 1st year Harvard Medical Students	Harvard Medical School One 5-hour session
2017	Patient-Doctor I 1st year Harvard Medical Students	BWFH One 4-hour session
2018	Essentials of the Profession 1 2nd year Harvard Medical Students	HMS One 2-hour session
2019	Essentials of the Profession 2 1st year Harvard Medical Students	HMS Five 2-hour sessions
2020	Essentials of the Profession 2 1st year Harvard Medical Students	HMS Five 2-hour sessions

Formal Teaching of Residents, Clinical Fellows and Research Fellows (post-docs):

2016-2018	Noon Conference: Management of Pneumonia in the Hospital Internal Medicine residents	BWFH One hour lecture
2016-2018	Morning Report Discussant Internal Medicine residents	BWFH One hour lecture
2016-2019	Intern Report Discussant Internal Medicine interns	BWH One hour lecture
2016	Noon Conference: Diagnosis and Treatment of Anemia in the Hospital Internal medicine residents	BWFH One hour lecture
2017	Noon Conference: Hospital Management of Decompensated Cirrhosis Internal medicine residents	BWFH One hour lecture
2017-2018	Noon Conference: Hospital Management of Tick-Borne Infections Internal Medicine residents	BWFH
2019	Noon Conference: Hospital Care of Opiate-Addicted Patients Internal Medicine Residents	BWFH One hour lecture
2018-Present	Humanistic Curriculum Instructor Internal Medicine Residents	BWH Monthly x10 months/year

Clinical Supervisory and Training Responsibilities:

2016-Present	General Medicine Ward Attending BWH and BWFH	12-18 weeks per year
2016-2018	Clinic Preceptor/Faulkner Family Care Associates	4 half day sessions per year

Formal Teaching of Peers (e.g., CME and other continuing education courses):

No presentations below were sponsored by outside entities

Those presentations below sponsored by outside entities are so noted and the sponsor(s) is (are) identified.

Local Invited Presentations:

2016	Hospital Acquired Pneumonia Guidelines Update Hospital Medicine Unit, BWH
2018	Suboxone Waiver Training for Hospitalists Hospital Medicine Unit, BWH
2018	Care of Patients with Personality Disorders Hospital Medicine Unit, BWH

Report of Clinical Activities and Innovations

Current Licensure and Certification:

2016	Certification, American Board of Internal Medicine
2016	Certification, American Board of Pediatrics
2016	Massachusetts Medical License

Practice Activities:

2016-Present	Inpatient Care-Days	General Medicine, BWH and BWFH	17-22 weeks per year
2016-Present	Inpatient Care-Nights	General Medicine, Cardiology, Pulmonology, and Nephrology, BWH and BWGF	2-3 shifts per month
2016-Present	Inpatient Care-Nights	Oncology, Dana-Farber Cancer Institute	2-3 shifts per month
2016-Present	Ambulatory Care	Faulkner Family Care Associates, BWFH	2-4 half days per year
2018-Present	Ambulatory Care	Bridge Clinic, BWH	0-4 half days per month

Report of Scholarship

Peer-Reviewed Scholarship in print or other media:

Research Investigations

1. Noel E, Esperance MC, Mclaughlin M, Bertrand R, Devieux J, Severe P, Decome D, Marcelin A, Nicotera, J, Delcher C, Griswold M, Meredith G, Pape JW; Koenig SP. Attrition From HIV Testing to Antiretroviral Therapy Initiation Among Patients Newly Diagnosed With HIV in Haiti. JAIDS. 1 March 2013. 62(3): e61-e69.
2. Riviere C, Faust E, Miller T, Beck EJ, Baruwa E, Severe P, Severe K, Riché CT, Cassagnol R, Atwood S, Esperance M, Webster L, Cremieux P, Pape JW, Koenig SP. Superior outcomes and lower outpatient costs with scale-up of antiretroviral therapy at the GHESKIO clinic in Port-au-Prince, Haiti. J Acquir Immune Deficiency Syndrome. 2014 Aug 1; 66(4):e72-9.
3. Esperance MC, Koenig SP, Guiteau C, Homeus F, Devieux J, Edouard J, Bertrand R, Joseph P, Bellot C, Decome D, Pape JW, Severe P. A successful model for rapid triage of symptomatic patients at an HIV testing site in Haiti. Int Health. 2015 Jul 14.

Abstracts, Poster presentations, and Exhibits Presented at Professional Meetings:

1. Esperance MC. Spots and Anemia: Lyme and Babesia. Society of Hospital Medicine Annual Meeting. 2018 April 8.